IN THE DRAWINGS

Applicant respectfully requests approval of the following drawing changes.

Figure 3 has been amended to identify noise suppression system with reference number 50. In addition, Figures 3 and 4 have each been amended to more clearly illustrate features described in the specification. Specifically, Figure 3 has been amended to identify core engine exhaust nozzle with reference number 35, manifold 52, air source 54, actuation valve 56, tubes 60, and exhaust stream 85. Moreover, Figure 4 has been amended to include reference numbers identifying the core engine exhaust nozzle 35, upstream end 62, downstream end 64, length 66, end 68, tube pairs 70, first tube 72, second tube 74, opening 76, and centerline axis 82.

Applicants respectfully submit that no new matter has been added. Submitted herewith are Replacement Sheets for Figures 3 and 4, which include the above-referenced changes to Figures 3 and 4.

Remarks

The Office Action mailed December 15, 2005 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-20 are now pending in this application. Claims 1-20 stand rejected.

In accordance with 37 C.F.R. 1.136(a), a one month extension of time is submitted herewith to extend the due date of the response to the Office Action dated December 15, 2005, for the above-identified patent application from March 15, 2006, through and including April 15, 2006. In accordance with 37 C.F.R. 1.17(a)(1), authorization to charge a deposit account in the amount of $120 to cover this extension of time request also is submitted herewith.

Initially, Applicants note that the specification has been amended to replace paragraphs [0027] and [0028] in accordance with the application as originally filed. The preliminary amendment mailed June 20, 2005 incorrectly identifies the wrong paragraph to be replaced.

The objections to the drawings are respectfully traversed. Specifically, Figures 3 and 4 have each been amended to identify the core engine exhaust nozzle with reference number 35.

Figure 3 has been amended to identify noise suppression system with reference number 50. In addition, Figures 3 and 4 have each been amended to more clearly illustrate features described in the specification. Specifically, Figure 3 has been amended to identify core engine exhaust nozzle with reference number 35, manifold 52, air source 54, actuation valve 56, tubes 60, and exhaust stream 85. Moreover, Figure 4 has been amended to include reference numbers identifying the core engine exhaust nozzle 35, upstream end 62, downstream end 64, length 66, end 68, tube pairs 70, first tube 72, second tube 74, opening 76, and centerline axis 82.

Applicants respectfully submit that no new matter has been added. Submitted herewith are Replacement Sheets for Figures 3 and 4, which include the above-referenced changes to Figures 3 and 4.

Applicants respectfully traverse the objection to Figures 4, 5 and 6. In contrast to the Examiner's assertion that "tubes 70 are not shown with triangular chevrons on the fan exhaust nozzle 30", Applicants respectfully submit that tubes 70 in fact are circumferentially-spaced on each side of each respective chevron, as shown in Figures 4 and 6. Tubes 70 are not positioned along "both sides of the chevrons" (i.e. radially outward and radially inward) as the Examiner indicates but rather are positioned along each circumferentially-spaced side of each chevron. As such, Applicants respectfully request the objections to Figures 4-6 be withdrawn.

Furthermore, Figure 5 is a side view of an exemplary noise suppression system that may be used with a gas turbine engine. Because of the orientation of Figure 5, tubes 70 are not illustrated in Figure 5 as being along each circumferentially-spaced side of each respective chevron. Applicants respectfully request for the objection to Figure 5 be withdrawn.

The objection to Claim 5 is respectfully traversed. Specifically, Claim 5 has been amended to recite "generate a single vortex." For at least the reasons set forth above, Applicants request that the objection to Claim 5 be withdrawn.

The rejection of Claims 8, 15 under 35 U.S.C. 102(b) as being anticipated by Bhat (U.S. Patent No. 4,280,587) is respectfully traversed.

Bhat describes a turbofan designed such that primary exhaust flow discharged from a turbine is exhausted from a generally circular primary exhaust nozzle (16). A separate flow of air, the secondary or fan flow, bypasses the turbine and is discharged from a generally circular fan nozzle (2). The discharge end of primary exhaust nozzle (16) is aligned substantially perpendicular and is substantially concentric with respect to the longitudinal axis of the turbofan. To facilitate offsetting the fan flow relative to the primary exhaust flow,

the discharge end portion of a fan or common nozzle (17) is swept downward such that the high velocity primary exhaust flow is discharged above the fan flow. The common nozzle (17) includes four small triangular deflector plates (18) that are supported from the discharge end of the common nozzle (17) by a cantilever support arm (19). Each plate is oriented obliquely to the central axis of the common nozzle and is positioned to deflect a portion of the primary exhaust flow outward to mix with ambient air. In one embodiment, the deflectors are coupled to a mechanism for retracting or changing the angle of the deflectors. For example, a hydraulic jack (J) may be connected between the support arm and the deflector plate to change the angle of the plate. Notably, Bhat does not describe nor suggest a noise suppression system including a plurality of tubes coupled to a manifold wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex.

Claim 8 recites an assembly for a gas turbine engine, wherein the assembly comprises "a gas turbine nozzle, a plurality of chevrons coupled to said gas turbine nozzle, and a noise suppression system coupled to said gas turbine nozzle, said noise suppression system comprising a manifold coupled to said gas turbine nozzle and a plurality of tubes coupled to said manifold, said noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron."

Bhat does not describe nor suggest a noise suppression system as is recited in Claim 8. Specifically, Bhat does not describe nor suggest a noise suppression system coupled to a gas turbine engine wherein the suppression system includes a plurality of tubes coupled to a manifold and the suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron. Rather, Bhat describes a noise suppression system that is continuously used during engine operation and is not selectively operable. Accordingly, Claim 8 is submitted to be patentable over Bhat.

Claims 9-14 depend, directly or indirectly, from independent Claim 8. When the recitations of Claims 9-14 are considered in combination with the recitation of Claim 8, Applicants submit that dependent Claims 9-14 are likewise patentable over Bhat.

With respect to Claim 15, Claim 15 recites a gas turbine engine comprising "a core engine nozzle, a fan nozzle, a plurality of chevrons coupled to at least one of said core engine nozzle and said fan nozzle, and a noise suppression system coupled to at least one of said core engine nozzle and said fan nozzle, said noise suppression system comprising a manifold coupled to said gas turbine nozzle and a plurality of tubes coupled to said manifold, said noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron."

Bhat does not describe nor suggest a noise suppression system as is recited in Claim 15. Specifically, Bhat does not describe nor suggest a noise suppression system coupled to a gas turbine engine wherein the suppression system includes a plurality of tubes coupled to a manifold and the suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron. Rather, Bhat describes a noise suppression system that is continuously used during engine operation and is not selectively operable. Accordingly, Claim 15 is submitted to be patentable over Bhat.

Claims 16-20 depend, directly or indirectly, from independent Claim 15. When the recitations of Claims 16-20 are considered in combination with the recitation of Claim 15, Applicants submit that dependent Claims 16-20 are likewise patentable over Bhat.

For at least the reasons set forth above, Applicants respectfully request the Section 102 rejections of Claims 8 and 15 be withdrawn.

The rejection of Claims 8, 15 under 35 U.S.C. 102(b) as being anticipated by Nesbitt et al. (U.S. Patent No. 6,718,752) is respectfully traversed.

Nesbitt et al. describe a plurality of flow altering components (16) for use in a jet engine (10a). The exhaust flow altering components (16) are spaced apart from one another and extend from a lip (18) of an exhaust nozzle (14). Each exhaust flow altering component (16) is constructed to be deformable from a first position adjacent the flow path to a second position extending into the flow path of the exhaust flow in response to a control

signal applied to each of the flow altering components. In the first position, the flow altering components either have little affect on the thrust produced, or increase the thrust exiting from the exhaust nozzle. In the second position, the "deployed" position, the flow altering components extend into the flow path to facilitate mixing the exhaust flow with an adjacent air flow. Specifically, each flow altering component automatically operates to deform (i.e., bend or deflect) in response to heat such that they extend (i.e., "deploy") into the exhaust path flow. Notably, Nesbitt et al. do not describe nor suggest a noise suppression system including a plurality of tubes coupled to a manifold wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex.

Claim 8 recites, an assembly for a gas turbine engine, wherein the assembly comprises "a gas turbine nozzle, a plurality of chevrons coupled to said gas turbine nozzle, and a noise suppression system coupled to said gas turbine nozzle, said noise suppression system comprising a manifold coupled to said gas turbine nozzle and a plurality of tubes coupled to said manifold, said noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron."

Nesbitt et al. do not describe nor suggest a noise suppression system as is recited in Claim 8. Specifically, Nesbitt et al. do not describe nor suggest a noise suppression system coupled to a gas turbine engine wherein the suppression system includes a plurality of tubes coupled to a manifold and the suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron. Rather, Nesbitt et al. describe a noise suppression system wherein flow altering components automatically operate by responding to heat and as such are continuously in use during engine operation. Accordingly, Claim 8 is submitted to be patentable over Nesbitt et al.

Claims 9-14 depend, directly or indirectly, from independent Claim 8. When the recitations of Claims 9-14 are considered in combination with the recitation of Claim 8, Applicants submit that dependent Claims 9-14 are likewise patentable over Nesbitt et al..

With respect to Claim 15, Claim 15 recites a gas turbine engine comprising "a core engine nozzle, a fan nozzle, a plurality of chevrons coupled to at least one of said core engine nozzle and said fan nozzle, and a noise suppression system coupled to at least one of said core engine nozzle and said fan nozzle, said noise suppression system comprising a manifold coupled to said gas turbine nozzle and a plurality of tubes coupled to said manifold, said noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron."

Nesbitt et al. do not describe nor suggest a noise suppression system as is recited in Claim 15. Specifically, Nesbitt et al. do not describe nor suggest a noise suppression system coupled to a gas turbine engine wherein the suppression system includes a plurality of tubes coupled to a manifold and the suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron. Rather, Nesbitt et al. describe a noise suppression system wherein flow altering components automatically operate by responding to heat and as such are continuously in use during engine operation. Accordingly, Claim 8 is submitted to be patentable over Nesbitt et al.

Claims 16-20 depend, directly or indirectly, from independent Claim 15. When the recitations of Claims 16-20 are considered in combination with the recitation of Claim 15, Applicants submit that dependent Claims 16-20 are likewise patentable over Nesbitt et al.

For at least the reasons set forth above, Applicants respectfully request the Section 102 rejections of Claims 8 and 15 be withdrawn.

The rejection of Claims 8, 14, 15, 20 under 35 U.S.C. 103(a) as being unpatentable over any of Mathews et al. (U.S. Patent No. 6,314,721), Nesbitt et al. (U.S. Patent No. 6,718,752), and Hebert (U.S. Patent No. 6,826,901) in view of Motsinger (3,527,317) is respectfully traversed.

Nesbitt et al. is described above. Mathews et al. describe an engine (10) including a system for suppressing jet noise. The engine (10) includes an arrangement of alternating tabs (40) disposed circumferentially on the exit of an exhaust nozzle duct (20). The arrangement of alternating tabs (40) includes tabs (44) that are directed radially outward and extend into a fan flow stream, tabs (48) which extend from the exhaust nozzle duct (20), and tabs (52) that are directed radially inward and extend into a core flow stream. The nozzle tabs are positioned such that there is a predetermined angular relationship between the tabs and the exhaust nozzle. As the air flows through the exhaust nozzle and exits the exhaust nozzle, the stationary alternating tabs (40) at the end of the exhaust nozzle alter flow disturbances causing vortices to form. This system operates automatically when the gas turbine engine is in operation. Notably, Mathews et al. do not describe nor suggest a noise suppression system including a plurality of tubes coupled to a manifold wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex.

Hebert describes a segmented exhaust nozzle (10) used with turbofan engines. The exhaust nozzle (10) includes a fan nozzle inner wall (12) and a fan nozzle outer wall (14). Walls (12 and 14) form an annular exhaust gas flow path (16). Exhaust nozzle (10) is contained within a nacelle (18). Outer wall (14) and inner wall (12) each include curved portions wherein aerodynamic choke points are formed between the curved portions. The curved portions form a geometric inflection which aids in curbing jet engine noise. This system operates automatically when the gas turbine engine is in operation. Notably, Hebert does not describe nor suggest a noise suppression system including a plurality of tubes coupled to a manifold wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex.

Motsinger describes an engine (40) wherein the engine includes a bladed fan rotor (42) that pressurizes an air stream. The air stream is straightened to an axial flow direction by outlet guide vanes (46). Pressurized air enters a fan duct (52) and the pressurized fan air is discharged from a nozzle (54). Shroud stream formed from water is used by the engine to minimize the angle of noise propagation from a fan stream nozzle when the engine is in use. Means may be used to shut off the water supply so as to only utilize the

shroud stream where noise is of serious consequence in the operation of the aircraft. Notably, Motsinger does not describe nor suggest a noise suppression system including a plurality of tubes coupled to a manifold wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex.

Applicants respectfully submit that the Section 103 rejection of presently pending claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it would have been an obvious to one of ordinary skill in the art to combine any of Mathews et al., Nesbitt et al., and Hebert in view of Motsinger. More specifically, it is respectfully submitted that a prima facie case of obviousness has not been established. As explained by the Federal Circuit, "to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the Applicant." In re Kotzab, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000). MPEP 2143.01.

Moreover, as is well established, the mere fact that the prior art structure could be modified does not make such a modification obvious unless the prior art suggests the desirability of doing so. See In re Gordon, 221 U.S.P.Q.2d 1125 (Fed. Cir. 1984). Furthermore, the Federal Circuit has determined that:

> [I]t is impermissible to use the claimed invention as an instruction manual or " template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

In re Fitch, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992). Further, under Section 103, "it is impermissible . . . to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." In re Wesslau, 147 USPQ 391, 393 (CCPA 1965). Rather, there must be some suggestion, outside of Applicant's disclosure, in the prior art to combine such references, and a reasonable

expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). In the present case, neither a suggestion nor motivation to combine the cited art, nor any reasonable expectation of success has been shown.

Accordingly, since there is no teaching nor suggestion in the cited art for the claimed combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicant requests that the Section 103 rejection of Claims 8, 14, 15 and 20 be withdrawn.

Moreover, if art "teaches away" from a claimed invention, such a teaching supports the nonobviousness of the invention. U.S. v. Adams, 148 USPQ 479 (1966); Gillette Co. v. S.C. Johnson & Son, Inc., 16 USPQ2d 1923, 1927 (Fed. Cir. 1990). In light of this standard, it is respectfully submitted that the cited art, as a whole, is not suggestive of the presently claimed invention. Specifically, Applicants respectfully submit that any of Mathews et al., Nesbitt et al., and Hebert teach away from the present invention, and as such, thus supports the nonobviousness of the present invention. More specifically, in contrast to the present invention, Mathews et al., Nesbitt et al., Hebert, and Motsinger clearly describe noise suppression systems that are not selectively operable to facilitate enhancing a streamwise vortex from each respective chevron. As such, the presently pending claims are patentably distinguishable from the cited combination.

In addition, no combination of Mathews et al., Nesbitt et al., Hebert, or Motsinger describes or suggests the claimed invention. Specifically, Claim 8 recites an assembly for a gas turbine engine, wherein the assembly comprises "a gas turbine nozzle, a plurality of chevrons coupled to said gas turbine nozzle, and a noise suppression system coupled to said gas turbine nozzle, said noise suppression system comprising a manifold coupled to said gas turbine nozzle and a plurality of tubes coupled to said manifold, said

noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron."

No combination of Mathews et al., Nesbitt et al., Hebert, or Motsinger describes nor suggests a noise suppression system as is recited in Claim 8. Specifically, no combination of Mathews et al., Nesbitt et al., Hebert, or Motsinger describes or suggests a noise suppression system wherein the suppression system includes a plurality of tubes coupled to a manifold and wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron. Rather, in contrast to the present invention, Mathews et al., Nesbitt et al., and Herbert describe systems that are continuously in operation, and Motsinger describes a system that selectively uses water to produce a shroud stream that flows through outlet guide vanes and fan ducts to reduce noise when the aircraft is in operation. Moreover, Mathews et al., Nesbitt et al., Hebert, and Motsinger, either considered alone or in combination with one another, do not describe nor suggest a noise suppression system including a plurality of tubes coupled to a manifold wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron.

Accordingly, Claim 8 is submitted to be patentable over any of Mathews et al., Nesbitt et al., and Hebert, in view of Motsinger. Claims 9-14 depend from independent Claim 8. When the recitations of Claims 9-14 are considered in combination with the recitations of Claim 8, Applicants submit that dependent Claims 9-14 likewise are patentable over any of Mathews et al., Nesbitt et al., and Hebert, in view of Motsinger.

Claim 15 recites a gas turbine engine comprising "a core engine nozzle, a fan nozzle, a plurality of chevrons coupled to at least one of said core engine nozzle and said fan nozzle, and a noise suppression system coupled to at least one of said core engine nozzle and said fan nozzle, said noise suppression system comprising a manifold coupled to said gas turbine nozzle and a plurality of tubes coupled to said manifold, said noise suppression

system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron."

No combination of Mathews et al., Nesbitt et al., Hebert, or Motsinger describes nor suggests a gas turbine engine as is recited in Claim 15. Specifically, no combination of Mathews et al., Nesbitt et al., Hebert, or Motsinger describes or suggests a noise suppression system wherein the suppression system includes a plurality of tubes coupled to a manifold and wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron. Rather, in contrast to the present invention, Mathews et al., Nesbitt et al., and Herbert describe systems that are continuously in operation, and Motsinger describes a system that selectively uses water to produce a shroud stream that flows through outlet guide vanes and fan ducts to reduce noise when the aircraft is in operation. Moreover, Mathews et al., Nesbitt et al., Hebert, and Motsinger, either considered alone or in combination with one another, do not describe nor suggest a noise suppression system including a plurality of tubes coupled to a manifold wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron.

Accordingly, Claim 15 is submitted to be patentable over any of Mathews et al., Nesbitt et al., and Hebert, in view of Motsinger. Claims 16-20 depend from independent Claim 15. When the recitations of Claims 16-20 are considered in combination with the recitations of Claim 15, Applicants submit that dependent Claims 16-20 likewise are patentable over any of Mathews et al., Nesbitt et al., and Hebert, in view of Motsinger.

For at least the reasons set forth above, Applicant respectfully requests that the Section 103 rejection of Claims 8, 14, 15, 20 be withdrawn.

The rejection of Claims 1-20 under 35 U.S.C. 103(a) as being unpatentable over any of Mathews et al. (U.S. Patent No. 6,314,721), Nesbitt et al. (U.S. Patent No.

6,718,752), and Hebert (U.S. Patent No. 6,826,901) in view of Lilley (2,990,905) and Motsinger (3,527,317) is respectfully traversed.

Mathews et al., Nesbitt et al., Hebert, and Motsinger are described above. Lilley describes a jet pipe nozzle including a plurality of nozzles arranged around the edge of the end of the jet pipe nozzle to reduce jet engine noise. The jet pipe nozzle includes inner and outer walls (1 and 1A) such that the walls form an annular duct (2). A series of nozzles (3) are positioned in the downstream wall of the annular duct. The nozzles are angled inward to direct the air as it exits the nozzles (3). The system described in Lilley operates automatically such that the system is operates when the engine is in use. Notably, Lilley does not describe nor suggest a noise suppression system including a plurality of tubes coupled to a manifold wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex.

Applicants respectfully submit that the Section 103 rejection of presently pending claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it would have been an obvious to one of ordinary skill in the art to combine any of Mathews et al., Nesbitt et al., and Hebert in view of Lilley and Motsinger. More specifically, it is respectfully submitted that a prima facie case of obviousness has not been established. As explained by the Federal Circuit, "to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the Applicant." In re Kotzab, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000). MPEP 2143.01.

Moreover, as is well established, the mere fact that the prior art structure could be modified does not make such a modification obvious unless the prior art suggests the desirability of doing so. See In re Gordon, 221 U.S.P.Q.2d 1125 (Fed. Cir. 1984). Furthermore, the Federal Circuit has determined that:

> [I]t is impermissible to use the claimed invention as an instruction manual or " template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has

> previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

In re Fitch, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992). Further, under Section 103, "it is impermissible . . . to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." In re Wesslau, 147 USPQ 391, 393 (CCPA 1965). Rather, there must be some suggestion, outside of Applicant's disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). In the present case, neither a suggestion nor motivation to combine the cited art, nor any reasonable expectation of success has been shown.

Accordingly, and in contrast to the assertion within the Office Action, Applicants respectfully submit that it would not be obvious to one skilled in the art to modify any of Mathews et al., Nesbitt et al., and Hebert in view of Lilley and Motsinger. Rather, only the conclusory statement that "it would have been obvious to one of ordinary skill in the art to employ tube pairs to employ a valve to selectively operate the noise reduction system in order to use the noise reduction system only when needed."

Accordingly, since there is no teaching nor suggestion in the cited art for the claimed combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicant requests that the Section 103 rejection of Claims 1-20 be withdrawn.

Moreover, if art "teaches away" from a claimed invention, such a teaching supports the nonobviousness of the invention. U.S. v. Adams, 148 USPQ 479 (1966); Gillette Co. v. S.C. Johnson & Son, Inc., 16 USPQ2d 1923, 1927 (Fed. Cir. 1990). In light of this standard, it is respectfully submitted that the cited art, as a whole, is not suggestive of the

presently claimed invention. Specifically, Applicants respectfully submit that any of Mathews et al., Nesbitt et al., Hebert, Lilley, and Motsinger teach away from the present invention, and as such, thus supports the nonobviousness of the present invention. More specifically, in contrast to the present invention, Mathews et al., Nesbitt et al., Hebert, Lilley, and Motsinger clearly describe noise suppression systems wherein the system is not selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron. As such, the presently pending claims are patentably distinguishable from the cited combination.

In addition, no combination of Mathews et al., Nesbitt et al., Hebert, Motsinger or Lilley describes or suggests the claimed invention. Specifically, Claim 1 recites a method for operating a gas turbine engine, the gas turbine engine including a nozzle including a plurality of chevrons coupled to the nozzle, the method comprising "channeling compressed air from the gas turbine engine to a noise suppression system that includes a manifold and a plurality of tubes coupled to the manifold, and selectively operating the noise suppression system such that air discharged from the noise suppression system enhances a streamwise vortex generated downstream from each respective chevron."

No combination of Mathews et al., Nesbitt et al., Hebert, or Motsinger describes nor suggests a method for operating a gas turbine engine as is recited in Claim 1. Specifically, no combination of Mathews et al., Nesbitt et al., Hebert, or Motsinger describes or suggests a noise suppression system including a plurality of tubes coupled to a manifold wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron. Rather, in contrast to the present invention, Mathews et al., Nesbitt et al., Lilley, and Herbert describe systems that are continuously in operation, and Motsinger describes a system that selectively uses water to produce a shroud stream that flows through outlet guide vanes and fan ducts to reduce noise when the aircraft is in operation. Moreover, Mathews et al., Nesbitt et al., Hebert, Lilley, and Motsinger, either considered alone or in combination with one another, do not describe nor suggest a method for operating a gas turbine engine including a noise suppression system including a plurality of tubes coupled to a manifold such that the noise

suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron.

Accordingly, Claim 1 is submitted to be patentable over any of Mathews et al., Nesbitt et al., and Hebert, in view of Lilley and Motsinger. Claims 2-7 depend from independent Claim 1. When the recitations of Claims 2-7 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2-7 likewise are patentable over any of Mathews et al., Nesbitt et al., and Hebert, in view of Lilley and Motsinger.

Specifically, Claim 8 recites an assembly for a gas turbine engine, wherein the assembly comprises "a gas turbine nozzle, a plurality of chevrons coupled to said gas turbine nozzle, and a noise suppression system coupled to said gas turbine nozzle, said noise suppression system comprising a manifold coupled to said gas turbine nozzle and a plurality of tubes coupled to said manifold, said noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron."

No combination of Mathews et al., Nesbitt et al., Hebert, or Motsinger describes nor suggests an assembly for a gas turbine engine as is recited in Claim 8. Specifically, no combination of Mathews et al., Nesbitt et al., Hebert, or Motsinger describes or suggests a noise suppression system including a plurality of tubes coupled to a manifold wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron. Rather, in contrast to the present invention, Mathews et al., Nesbitt et al., Lilley, and Herbert describe systems that are continuously in operation, and Motsinger describes a system that selectively uses water to produce a shroud stream that flows through outlet guide vanes and fan ducts to reduce noise when the aircraft is in operation. Moreover, Mathews et al., Nesbitt et al., Hebert, Lilley, and Motsinger, either considered alone or in combination with one another, do not describe nor suggest a method for operating a gas turbine engine including a noise suppression system including a plurality of tubes coupled to a manifold such that the noise

suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron.

Accordingly, Claim 8 is submitted to be patentable over any of Mathews et al., Nesbitt et al., and Hebert, in view of Lilley and Motsinger. Claims 9-14 depend from independent Claim 8. When the recitations of Claims 9-14 are considered in combination with the recitations of Claim 8, Applicants submit that dependent Claims 9-14 likewise are patentable over any of Mathews et al., Nesbitt et al., and Hebert, in view of Lilley and Motsinger.

Claim 15 recites a gas turbine engine comprising "a core engine nozzle, a fan nozzle, a plurality of chevrons coupled to at least one of said core engine nozzle and said fan nozzle, and a noise suppression system coupled to at least one of said core engine nozzle and said fan nozzle, said noise suppression system comprising a manifold coupled to said gas turbine nozzle and a plurality of tubes coupled to said manifold, said noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron."

No combination of Mathews et al., Nesbitt et al., Hebert, or Motsinger describes nor suggests a gas turbine engine as is recited in Claim 15. Specifically, no combination of Mathews et al., Nesbitt et al., Hebert, or Motsinger describes or suggests a noise suppression system including a plurality of tubes coupled to a manifold wherein the noise suppression system is selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron. Rather, in contrast to the present invention, Mathews et al., Nesbitt et al., Lilley, and Herbert describe systems that are continuously in operation, and Motsinger describes a system that selectively uses water to produce a shroud stream that flows through outlet guide vanes and fan ducts to reduce noise when the aircraft is in operation. Moreover, Mathews et al., Nesbitt et al., Hebert, Lilley, and Motsinger, either considered alone or in combination with one another, do not describe nor suggest a method for operating a gas turbine engine including a noise suppression system including a plurality of tubes coupled to a manifold such that the noise suppression system is

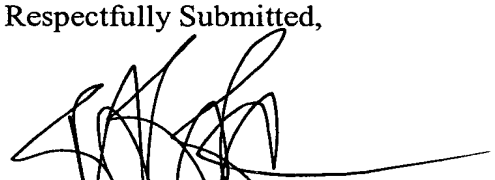
selectively operable to facilitate enhancing a streamwise vortex generated downstream from each respective chevron.

Accordingly, Claim 15 is submitted to be patentable over any of Mathews et al., Nesbitt et al., and Hebert, in view of Lilley and Motsinger. Claims 16-20 depend from independent Claim 15. When the recitations of Claims 16-20 are considered in combination with the recitations of Claim 15, Applicants submit that dependent Claims 16-20 likewise are patentable over any of Mathews et al., Nesbitt et al., and Hebert, in view of Lilley and Motsinger.

For at least the reasons set forth above, Applicant respectfully requests that the Section 103 rejection of Claims 1-20 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



Robert B. Reeser, IV
Registration No. 45,548
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070